

MILLS STREET BRIDGE
Spanning the Kalamazoo River at Mills Street
Kalamazoo
Kalamazoo County
Michigan

HAER No. MI-62

HAER
MICH
39-KALAM,
4-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
Northeast Region
U.S. Custom House
200 Chestnut Street
Philadelphia, PA 19106

HISTORIC AMERICAN ENGINEERING RECORD

MILLS STREET BRIDGE

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Location: Spanning the Kalamazoo River at Mills Street in the City of Kalamazoo, Kalamazoo County, Michigan

USGS Kalamazoo Quadrangle,
Universal Transverse Mercator
Coordinates: 16.618190.4683090

Date of Construction: 1912

Engineer: H.A. Johnston

Contractor: Richard Heystek, Sr.

Present Owner: City of Kalamazoo
241 W. South Street
Kalamazoo, MI 49007

Present Use: Vehicular/Pedestrian Bridge

Significance: The Mills Street Bridge is an early example of a large, earth-filled concrete arch bridge. It has been determined to be eligible for listing in the National Register of Historic Places by the Michigan Bureau of History.

Project Information: This historic documentation was undertaken in September 1992 in accordance with the Memorandum of Agreement by the Federal Highway Administration, Michigan State Historic Preservation Officer, Advisory Council on Historic Preservation, Michigan Department of Transportation, and the City of Kalamazoo, Michigan as a mitigative measure prior to demolition and replacement of the bridge.

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Environmental Scientist
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The existing Mills Street Bridge spans the Kalamazoo River (as shown in the general location map) in of the City of Kalamazoo, Kalamazoo County, Michigan (T2S, R11W, Section 14). The bridge connects the north and south portions of Mills Street. The Bridge and its immediate surroundings are shown on the Mills Street Bridge Site Map.

The Mills Street Bridge is sometimes referred to as the Mill Street Bridge in historic documentation and photographs. The proper name of the street is Mills Street.

The Mills Street Bridge was built in 1912 by the City of Kalamazoo under the supervision of H.A. Johnston, City Engineer. The contractor was Mr. Richard Heystek, Sr. This bridge replaced an existing bridge which was in "dangerous condition" (1).

The bridge is a large, three-arched, earth-filled concrete structure approximately 212 feet in length. Each arch is about 59 feet in length.

The bridge rests on two concrete piers and a concrete abutment on each end. The bridge deck consists of an asphalt wearing surface. The bridge is 32 feet wide. The roadway (two lanes) is approximately 25 feet wide.

The Mills Street Bridge has steel railings. A cement sidewalk (4 feet wide) exists on the west side of the bridge. The roadways adjoining the bridge are each 30 feet wide.

The Mills Street Bridge has been officially determined by the State of Michigan Historic Preservation Officer (SHPO) and the Department of the Interior as eligible for the National Register of Historic Places because it is an early example of a large, earth-filled concrete arch bridge. The bridge is an aesthetically highly pleasing example of the arch genre, in the opinion of the SHPO.

Historical information on the Mills Street Bridge is limited. Some information was found at the Kalamazoo Public Library and Western Michigan University Archives and Regional History Collections. Mr. Donald Heystek, son of Mr. Richard Heystek, Sr., provided information and several old photographs on the Mills Street Bridge. The Kalamazoo Public Museum supplied a postcard of the bridge. The Kalamazoo County Road Commission supplied a newspaper article.

No significant events or persons are known to be connected with the bridge. According to Mr. Donald Heystek, City officials wanted the bridge built but finances were not available from the city. Mr. Richard Heystek, Sr. went ahead without the funding and hired engineers and prime contractors to build the bridge. The city reimbursed him after the bridge was completed. "Bonds were issued to the amount of Sixteen Thousand Dollars for the construction of a reinforced concrete bridge over the Kalamazoo River at Mill street." (2)

Several of the Mills Street Bridge laborers were immigrants. Mr. Heystek, himself an immigrant from the Netherlands, paid the passage for some of these men and their families from the old country, and in return "they worked-off that cost in his employ." (3)

Earth-filled concrete arch construction was the engineering technique used in construction of the bridge (4). First, wooden platforms were constructed on timber piles to support the cement poured to form the arches (4). Concrete headwalls and railings were then constructed and earth-fill was placed between the walls over the arches. Finally, the roadway was surfaced and the

bridge opened to traffic. Construction required over 20 tons of steel and approximately 2,000 barrels of cement (1,700 cubic yards) and took slightly over three months to complete (5).

As a contractor, Mr. Heystek built more than just bridges. He built roads in Indiana and Ohio and "became the second road paver in the state of Michigan..." (3) He also was responsible for some of the sidewalks and brick streets in Kalamazoo (3). Mr. Heystek started a family business that still exists today as Heystek and Sons Asphalt Paving and Sealing (3) of Kalamazoo.

City officials considered the Mills Street Bridge "one of the best ever built in Kalamazoo." (5) In 1912 they stated that they planned "to preserve a uniform plan of bridge building in this city in the future and all bridges constructed will be patterned after the Mills and Gull Street bridges." (5) (The Gull Street Bridge was a nearby bridge of similar design. It was also built by Mr. Heystek.)

The Mills Street Bridge has not been significantly altered, although the original lampposts are gone. Little information is available on minor improvements or repairs. City records indicate that in 1914 the Mills Street Bridge was in "need of a pavement for the roadway" (6).

In 1932 disintegration and corrosion had damaged the bridge to the extent that repairs were needed (7). The City Engineer, Edward S. Clark, reported "that the life and safe usefulness of the Mills Street bridge can be lengthened" at least 10 years if not more by repairs (7). The cost to repair this bridge was approximately \$4,973 (7).

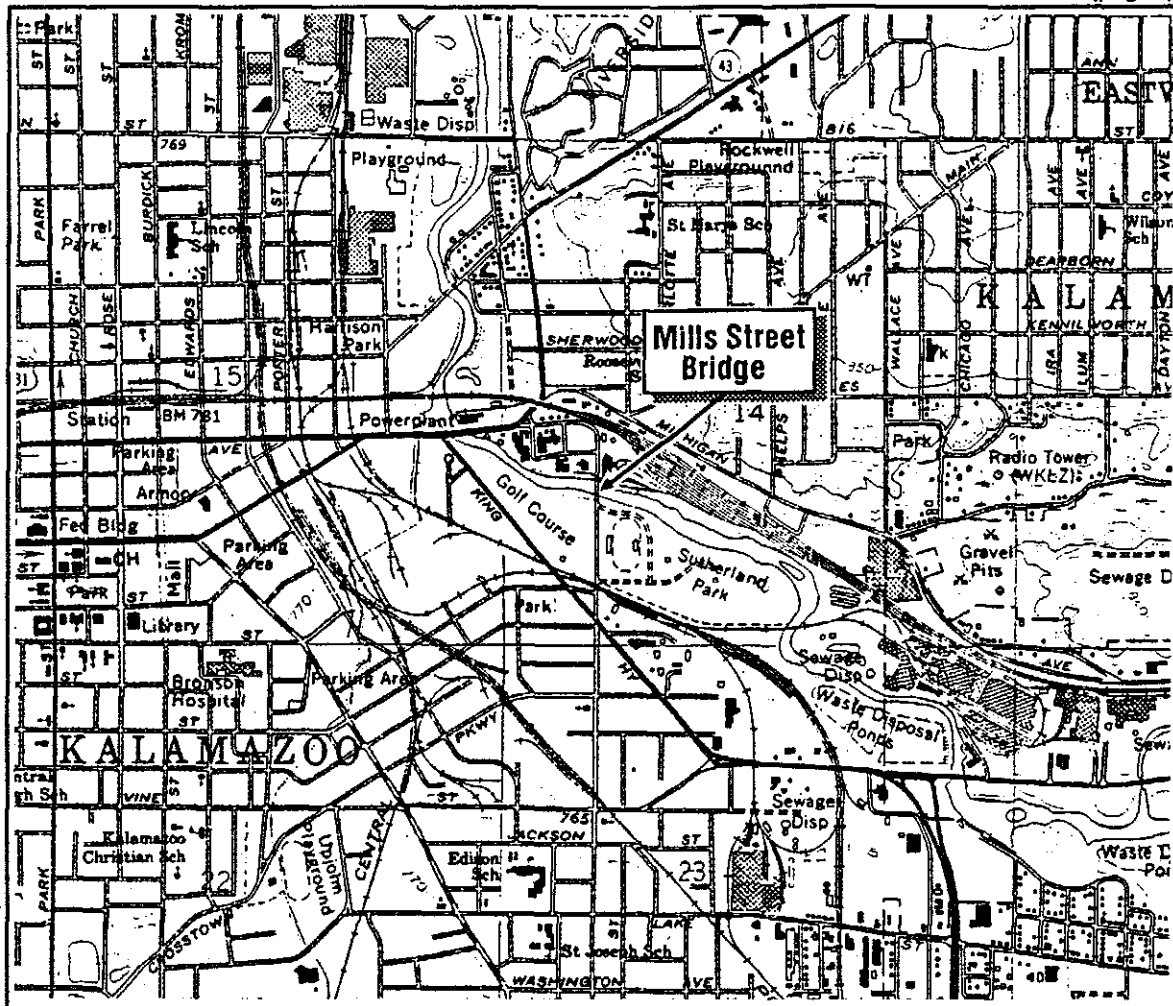
The Mills Street Bridge is an important link over the Kalamazoo River within the City of Kalamazoo. The bridge is also very important to police and fire protection. According to traffic counts in 1991 by the City of Kalamazoo, current two-way traffic volumes on the Mills Street Bridge show almost 10,200 vehicles per day use this route.

Recent bridge inspections have revealed that the main structural elements of the bridge are deteriorating. The bridge is characterized by cracking and large pitted areas where the concrete has deteriorated and fallen off the structure to the point where the reinforcing steel rods are exposed and showing signs of deterioration. The loss of the concrete side walls exposes the earth fill to erosion, especially during high water levels.

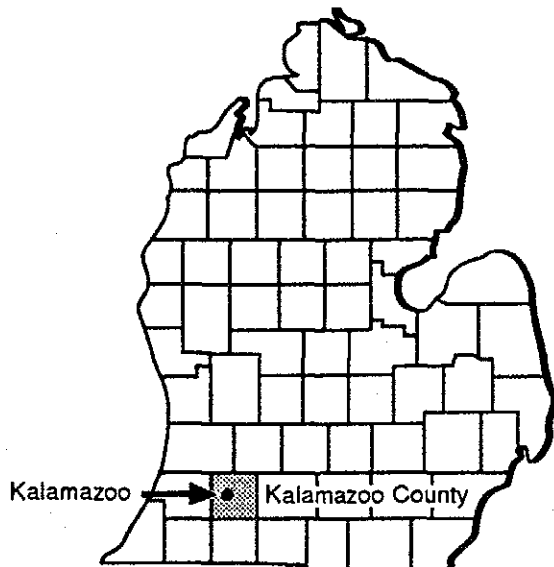
The bridge has a weight limit of 36 tons. This limit is less than fifty percent of legal truck loads for the state of Michigan. Continued deterioration of the bridge will result in even lower limits for this bridge until it will eventually need to be closed.

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2. "Report of Committee on Sidewalks and Bridges." *Annual Report of the City of Kalamazoo for the Fiscal Year Ending March 31, 1913*. Kalamazoo: Doubleday-Hubert-Dolan Co., page 93. (Original report in possession of the Archives and Regional History Collections, Western Michigan University, Kalamazoo, Michigan).
3. "Progress... for 80 Years." *Kalamazoo Gazette*, July 4, 1976, page C-4. (Original article in possession of Kalamazoo County Road Commission).
4. "Early Engineering." *Kalamazoo Gazette*, May 5, 1991, (no page number provided). (Original article in possession of the Reference Department, Kalamazoo Public Library, Kalamazoo, Michigan).
5. "Mill Street Bridge Will Open Monday." *Kalamazoo Telegraph Press*, October 10, 1912, (no page number provided). (Original article in possession of the Reference Department, Kalamazoo Public Library, Kalamazoo, Michigan).
6. "Report of the Committee on Sidewalks and Bridges." *Annual Report of the City of Kalamazoo for the Fiscal Year Ending March 31, 1914*. Kalamazoo: Doubleday-Hubert-Dolan Co., page 34. (Original report in possession of the Archives and Regional History Collections, Western Michigan University, Kalamazoo, Michigan).
7. "Two City Bridges Will Be Repaired." *Kalamazoo Gazette*, May 17, 1932 (no page number provided). (Original article in possession of the Reference Department, Kalamazoo Public Library, Kalamazoo, Michigan).



Source: U.S. Geological Survey Map - Kalamazoo Quadrangle, 1973



0 2000 4000
Scale in Feet

Figure 1

SITE LOCATION MAP
Mills Street Bridge • Kalamazoo River
Kalamazoo, Michigan

July 1992

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